

The upper limits for Class 4 Excavation will be the bottom of the stream bed or the water elevation shown on the Contract Documents, whichever is lower.

The payment for Class 3 Excavation and Class 4 Excavation specified in the Contract Documents will be full compensation for all excavation, backfill, filling void around footings due to removing forms, blasting, grout, dewatering, removal and disposal of excess or unsuitable material, and for all material, labor, equipment, tools, and incidentals necessary to complete the work. When an item for Class 3 Excavation and Class 4 Excavation is not included in the Contract Documents, the excavation will not be measured but the cost will be incidental to other items.

Excavation for Pipe Culverts, Culvert End Walls, Inlets, and Manholes is excluded from the Class 3 Excavation or Class 4 Excavation.

402.04.01 Additional excavation required below the elevation specified in the Contract Documents and necessitated by the lowering or deepening of footings, or the placing of subfoundations or underpinning, will be measured and paid for at the Contract unit price for either Class 3 Excavation or Class 4 Excavation as directed by the Engineer.

402.04.02 Sheet piling, bracing, and shoring either removed or left in place, will not be measured but the cost will be incidental to other pertinent items unless otherwise specified in the Contract Documents.

402.04.03 Excavation necessary to expose or remove piles, grillages, sheet piling, cribbing, masonry, or other obstructions will not be measured nor paid for if the excavation occurs outside the limits of excavation. The removal and disposal of obstructions within the limits of excavation will not be measured separately but the cost will be included in the Contract unit price for either Class 3 Excavation or Class 4 Excavation.

SECTIONS 403 — 404 RESERVED

SECTION 405 — REMOVAL OF EXISTING STRUCTURES

405.01 DESCRIPTION. This work shall consist of the removal and disposal, wholly or in part, of existing structures as specified in the Contract Documents.

405.02 MATERIALS. Not applicable.

405.03 CONSTRUCTION. Before removal operations begin, the Contractor shall submit to the Engineer for approval a list of the equipment to be used and the removal method.

Sheeting and shoring required for the removal of existing structures or portions thereof shall conform to 402.03.03.

Unless otherwise specified in the Contract Documents, the limits of removal for existing structures shall be 1 ft below the proposed groundline or to the limits necessary to avoid conflict with the proposed construction. The material obtained from the removal of the existing structures shall become the property of the Contractor who shall remove and dispose of the material on approved spoil areas.

When portions of an existing structure are to be removed and the remaining portion will be exposed to view in the final structure, a neat 1 in. deep saw cut shall be made to separate the removal operations from the concrete which is to remain. Existing reinforcement steel that will be incorporated into the final structure shall be protected and conform to 421.03.07.

405.03.01 Removal of Bridge Deck Slabs. The Contractor shall protect the public against injury and damage from demolition operations when removing portions of existing bridge deck slabs. When deck removal is performed over or near roadways, railroads or waterways, the Contractor shall furnish and erect temporary protective shields to prevent any material or debris from entering these areas. The Contractor shall adhere to the underclearance restrictions specified in TC-6.12.

Working drawings for the protective shields shall be submitted in conformance with TC-4.01(b). Flooring and siding shall have no cracks or openings through which material particles may pass. The shields shall be able to support over their entire area 150 lb/ft² in addition to their own dead weight.

After the Engineer determines that the protective shields have served their purpose, they shall be removed and become the property of the Contractor.

405.03.02 Bridge Deck Slabs to be Replaced. On structures where the existing structural steel will be used in the finished structure and the Contractor elects to support the protective shields from the steel, all connections to the protective shields shall be made by means of clamps or other approved devices. The drilling of holes in the existing steelwork, or welding to the steelwork for this purpose is prohibited.

Before removal operations begin, the outlines of the top flanges or cover plates of all stringers and floor beams shall be drawn on the bridge deck and 1 in. diameter pilot holes made outside these lines to confirm the location of the steel.

Prior to removing the existing slabs, the Contractor shall take elevations at locations along the bottom of the bottom flange or top of the top flange by removing small sections of slabs over stringers using pilot holes at the center and quarter points of all stringers and at other points if necessary, to provide a maximum spacing of 25 ft between elevations. After removing the deck, the Contractor shall take a new set of elevations at the same points and ascertain the rebound. These rebounds shall be used in lieu of dead load deflections to establish grade controls and to produce finished tops of concrete bridge decks that will be true to as planned line and grade. For bridge decks constructed with a longitudinal construction joint between stringers, diaphragms between these stringers shall not be disconnected unless specified in the Contract Documents.

On continuous bridges, the Contractor's proposed sequence of deck removal shall address uplift at the ends of continuous spans.

If damage results from the Contractor's operations, the removal operation shall be modified and the damaged items shall be repaired or replaced by the Contractor in a manner acceptable to the Engineer at no additional cost to the Administration.

405.03.03 Removal of Existing Bridge. Existing bridges, including piles, shall be removed as specified in 207.03.01 and from any area that will interfere with proposed construction.

405.04 MEASUREMENT AND PAYMENT. The removal of existing bridges and structures or portions thereof will be measured and paid for as specified. The payment will be full compensation for all excavation, backfill, saw cuts, professional engineer services, temporary protective shields, temporary sheeting and shoring, hauling, disposal, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

405.04.01 The Removal of Existing Structures will not be measured for payment but will be paid for at the pertinent Contract lump sum price.

405.04.02 The removal of existing traffic barriers (parapets, railings, etc.) from bridges, including end posts and wing walls, and retaining walls will not be measured but will be paid for at the Contract lump sum price for the pertinent Removal of Existing Traffic Barrier item.

405.04.03 Removal of existing structures for which no specific pay item is included in the Contract Documents will not be measured but the cost will be incidental to other pertinent items specified in the Contract Documents.

SECTION 406 — DRILLED HOLES IN EXISTING MASONRY

406.01 DESCRIPTION. This work shall consist of drilling holes in existing masonry for grouting of bars, bolts or anchorages, as specified in the Contract Documents or as directed by the Engineer.

406.02 MATERIALS.

Grout

902.11(c)

406.03 CONSTRUCTION. Holes shall be drilled only in the solid portion of the masonry, and are prohibited at points where cracks exist. Drilled holes shall be a minimum of 6 in. from the face of any masonry surface. The minimum size of dowel bars shall be No. 6. The holes shall be drilled at least 1/2 in. larger than the outside diameter of the insert to be grouted. Holes shall be cleaned and then filled two thirds full of grout. The insert shall be placed and allowed to set for 24 hours.

406.04 MEASUREMENT AND PAYMENT. Drilled Holes in Existing Masonry will be measured and paid for at the Contract unit price per linear foot of drilled holes. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

Inserts required for insertion in these holes will not be measured but the cost will be incidental to other pertinent items specified in the Contract Documents.

Drilled holes for which no specific pay item is included in the Contract Documents will not be measured but the cost will be incidental to the other pertinent items specified in the Contract Documents.

SECTIONS 407 — 409 RESERVED